## nNOS (rat recombinant) - Purified

**Item No. 60875  Lot No. XXXXX**

### Synonyms:
Neuronal Nitric Oxide Synthase (rat recombinant) - Purified; NOS I (rat recombinant) - Purified; nNOS (rat recombinant) - Purified

### Source:
Recombinant enzyme; isolated from a Baculovirus overexpression system in S9 cells

### Mₗ:
- 150 kDa/subunit
- Homodimer

### Purity:
≥95%

### Stability:
29 months at -80°C

### Supplied in:
- 50 mM HEPES, pH 7.4, with 20% glycerol, 100 mM sodium chloride, and 10 μM tetrahydrobiopterin

### Specific activity:
- Batch specific units/mg

### Protein concentration:
- Batch specific mg/ml

### Activity concentration:
- Batch specific units/ml

### Unit definition:
One unit of enzyme produces 1 nanomole of nitric oxide per minute at 37°C in 50 mM HEPES, pH 7.4, containing 5 μM oxyhemoglobin, 1 mM CaCl₂, 20 μg/ml calmodulin, 0.1 mM NADPH, 50 μM arginine, 12 μM tetrahydrobiopterin, and 170 μM DTT.

### Laboratory Procedures
nNOS (rat recombinant) is stable for at least two months when stored at -80°C. The enzyme can lose approximately 30-35% of its activity during a single freeze/thaw cycle. In the event that only a portion of the enzyme is to be used in a single experiment, it is recommended that the enzyme be aliquoted into smaller sizes and frozen at -80°C. Since nNOS is a relatively unstable enzyme, keep the stock vial of the enzyme on ice (0-4°C) at all times when performing experiments. The enzyme should be added to the incubation medium (assay mixture) immediately prior to initiation of the experiment.

The activity of nNOS was quantitated spectrophotometrically using the oxyhemoglobin assay. This assay measures the reaction of nitric oxide with oxyhemoglobin to yield methemoglobin (ε = 60,000 M⁻¹ cm⁻¹ at 401 nm). One unit of enzyme produces 1 nmol of nitric oxide per minute at 37°C in 50 mM HEPES (pH 7.4) containing 50 μM arginine, 1 mM CaCl₂, 5 μM oxyhemoglobin, 20 μg/ml calmodulin, 0.1 mM NADPH, 12 μM tetrahydrobiopterin, and 170 μM DTT.

nNOS is responsible for the biosynthesis of nitric oxide from L-arginine. Constitutively expressed NOS is found in brain (nNOS) and endothelial cells (eNOS). A third form of the enzyme (iNOS) is induced by cytokines or LPS and is found in a variety of tissues/cell types including macrophages, hepatocytes, vascular smooth muscle cells, and chondrocytes.

### References

### Related Products
For a list of related products please visit: [www.caymanchem.com/catalog/60875](http://www.caymanchem.com/catalog/60875)

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**WARNING:** This product is for laboratory research only; not for administration to humans. Not for human or veterinary diagnostic or therapeutic use.

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